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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,325	03/28/2001	Benedict A. Itri	60705-1590	4374
7590	07/12/2004		EXAMINER	
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			2644	
			DATE MAILED: 07/12/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/819,325	ITRI, BENEDICT A.	
	Examiner	Art Unit	
	Daniel Swerdlow	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 March 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 17-34 is/are withdrawn from consideration.
- 5) Claim(s) 1-3 is/are allowed.
- 6) Claim(s) 4,5,8-11,13,15 and 16 is/are rejected.
- 7) Claim(s) 6,7,12 and 14 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 09 July 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 through 16, drawn to an analog front end system, classified in class 379, subclass 399.02.
 - II. Claims 17 through 23, drawn to a method of testing a DSL line, classified in class 379, subclass 27.03.
 - III. Claims 24 through 31, drawn to a DSL line testing format and test header, classified in class 370, subclass 241.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the testing process of invention II can be carried out on other line interfaces than the interface of invention I and the interface of invention I can be used for other processes (e.g., transmission and reception of user data to and from a subscriber line).
3. Inventions I and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the testing process of invention III can be carried out on other line interfaces than the interface of invention I and the

interface of invention I can be used for other processes (e.g., transmission and reception of user data to and from a subscriber line).

4. Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because other testing formats could be used with the test method. The subcombination has separate utility such as use in other line testing methods for other line types.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II or Group III and the search required for Group II is not required for Group III, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

8. During a telephone conversation with Mr. Daniel McClure, reg. no. 38,962 on 25 June 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1 through 16. Affirmation of this election must be made by applicant in replying to this

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Office action. Claims 17 through 34 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 4, 5, 8 through 11, 13, 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Amrany et al. (US Patent 6,192,109).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

11. Regarding Claim 4, Amrany discloses an analog front end (Fig. 4, reference 100; column 6, lines 53-62) comprising: a transmitter digital to analog converter; an amplifier (i.e., line driver) connected to the output of (i.e., electrically coupled to) the digital to analog converter; a switch (102) (i.e., a means for multiplexing a plurality of inputs to at least one output) connected to the output of (i.e., electrically coupled to) the amplifier (i.e., line driver); and an amplifier and

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analog to digital converter configuration (108, 104) that corresponds to the analog to digital converter claimed and is connected (i.e., electrically coupled) to the switch (i.e., means for multiplexing).

12. Regarding Claim 5, Amrany further discloses a Wheatstone bridge hybrid (Fig. 4, reference 128, 130, 132, 122) connected (i.e., coupled) between the amplifier (i.e., line driver) and the switch (102) (i.e., means for multiplexing).

13. Regarding Claim 8, Amrany further discloses a digital signal processor (i.e., processing circuitry) (Fig. 4, reference 116) that provides output to (i.e., controls the transmitter digital to analog converter and amplifier (i.e., line driver) and controls the switch (i.e., multiple input device), thereby selecting the input for (i.e., controlling) the analog to digital controller.

14. Claims 9, 10 and 16 are essentially similar to Claims 4, 5 and 8, respectively, and are rejected on the same grounds.

15. Regarding Claim 11, Amrany further discloses a connection between the amplifier output and a switch input (Fig. 4, reference 106) that corresponds to the isolation circuit claimed.

16. Regarding Claim 13, Amrany further discloses a connection between ground and a switch input (Fig. 4, reference 116) that corresponds to the ground circuit claimed.

17. Regarding Claim 15, Amrany further discloses the switch inputs selectively operational (column 6, lines 62-63; column 7, lines 6-7, 16-17).

Allowable Subject Matter

18. Claims 1 through 3 are allowed.

19. The following is an examiner's statement of reasons for allowance:

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20. Regarding Claim 1, Amrany discloses an analog front end (Fig. 4, reference 100; column 6, lines 53-62) comprising: a transmitter digital to analog converter; an amplifier (i.e., line driver) connected to the output of (i.e., electrically coupled to) the digital to analog converter; a Wheatstone bridge hybrid (Fig. 4, reference 128, 130, 132, 122) connected (i.e., coupled) to the amplifier (i.e., line driver); a switch (102) (i.e., multiple input device having a plurality of inputs and at least one output) connected to (i.e., electrically coupled to) the hybrid; an amplifier and analog to digital converter configuration (108, 104) that corresponds to the analog to digital converter claimed and is connected (i.e., electrically coupled) to the output of switch (i.e., multiple input device); a connection between the amplifier output and a switch input (Fig. 4, reference 106) that corresponds to the isolation circuit claimed; a connection between ground (i.e., a ground reference point) and a switch input (Fig. 4, reference 116) that corresponds to the ground circuit claimed; and a digital signal processor (i.e., processing circuitry) (Fig. 4, reference 116) that provides output to (i.e., controls the transmitter digital to analog converter and amplifier (i.e., line driver) and controls the switch (i.e., multiple input device), thereby selecting the input for (i.e., controlling) the analog to digital controller. Therefore, Amrany anticipates all elements of Claim 1 except the isolation circuit comprising a plurality of resistance elements and a plurality of capacitance elements and the ground circuit comprising a plurality of resistance elements. As such, Amrany fails to anticipate all elements of Claim 1. Therefore, Claim 1 is allowable.

21. Claims 2 and 3 are allowable due to dependence from Claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

22. Claims 6, 7, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter:

24. Regarding Claim 6, as shown above apropos of Claim 1, Amrany anticipates all elements of Claim 1 except the isolation circuit comprising a plurality of resistance elements and a plurality of capacitance elements. As such, Amrany fails to anticipate all elements of Claim 6. Therefore, Claim 6 is allowable matter.

25. Regarding Claim 7, as shown above apropos of Claim 1, Amrany anticipates all elements of Claim 1 except the ground circuit comprising a plurality of resistance elements. As such, Amrany fails to anticipate all elements of Claim 7. Therefore, Claim 7 is allowable matter.

26. Claim 12 is allowable matter for the same reasons as Claim 6.

27. Claim 14 is allowable matter for the same reasons as Claim 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MINSUN OK HARVEY
PRIMARY EXAMINER